RAW SEQUENCE LISTING

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Application Serial Number: _____ 10/542,704 _____
Source: _____ PCT _____
Date Processed by STIC: _____ 07/28/2005 _____

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PCT

RAW SEQUENCE LISTING   DATE: 07/28/2005
PATENT APPLICATION: US/10/542,704   TIME: 15:38:36

Input Set : **A:\sequence listing ascii.txt**
Output Set: **N:\CRF4\07282005\J542704.raw**

```
    3 <110> APPLICANT: Gardella, Thomas J.
    4        Kronenberg, Henry M.
    5        Potts, John T.
    7 <120> TITLE OF INVENTION: Conformationally Constrained Parathyroid Hormone (PTH)
Analogs
    8        With Lactam Bridges
   10 <130> FILE REFERENCE: 0609.514PC00
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/542,704
C--> 12 <141> CURRENT FILING DATE: 2005-07-20
   12 <160> NUMBER OF SEQ ID NOS: 37
   14 <170> SOFTWARE: PatentIn version 3.2
   16 <210> SEQ ID NO: 1
   17 <211> LENGTH: 14
   18 <212> TYPE: PRT
   19 <213> ORGANISM: Artificial Sequence
   21 <220> FEATURE:
   22 <223> OTHER INFORMATION: Mutated hPTH
   24 <220> FEATURE:
   25 <221> NAME/KEY: MISC_FEATURE
   26 <222> LOCATION: (1)..(1)
   27 <223> OTHER INFORMATION: Xaa can represent Gly, Ser, Ala or alpha-aminoisobutyric acid
   29 <220> FEATURE:
   30 <221> NAME/KEY: MISC_FEATURE
   31 <222> LOCATION: (3)..(3)
   32 <223> OTHER INFORMATION: Xaa can represent Ala, Ser, alpha-aminoisobutyric acid
   34 <220> FEATURE:
   35 <221> NAME/KEY: MISC_FEATURE
   36 <222> LOCATION: (6)..(6)
   37 <223> OTHER INFORMATION: Xaa can represent Asp, Glu or Lys
   39 <220> FEATURE:
   40 <221> NAME/KEY: MISC_FEATURE
   41 <222> LOCATION: (10)..(10)
   42 <223> OTHER INFORMATION: Xaa can represent Asp, Glu or Lys
   44 <220> FEATURE:
   45 <221> NAME/KEY: MISC_FEATURE
   46 <222> LOCATION: (11)..(11)
   47 <223> OTHER INFORMATION: Xaa can represent Arg, Leu or Homoarginine
   49 <220> FEATURE:
   50 <221> NAME/KEY: MISC_FEATURE
   51 <222> LOCATION: (12)..(12)
   52 <223> OTHER INFORMATION: Xaa can represent Ala or Gly
   54 <220> FEATURE:
   55 <221> NAME/KEY: MISC_FEATURE
   56 <222> LOCATION: (14)..(14)
```

(Pg-6)

RAW SEQUENCE LISTING   DATE: 07/28/2005
PATENT APPLICATION: US/10/542,704   TIME: 15:38:36

Input Set : **A:\sequence listing ascii.txt**
Output Set: **N:\CRF4\07282005\J542704.raw**

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  57 <223> OTHER INFORMATION: Xaa can represent Trp or His
  59 <220> FEATURE:
  60 <221> NAME/KEY: MOD_RES
  61 <222> LOCATION: (14)..(14)
  62 <223> OTHER INFORMATION: AMIDATION
  64 <400> SEQUENCE: 1
W--> 66 Xaa Val Xaa Glu Ile Xaa Leu Met His Xaa Xaa Xaa Lys Xaa
  67 1               5                   10
  70 <210> SEQ ID NO: 2
  71 <211> LENGTH: 12
  72 <212> TYPE: PRT
  73 <213> ORGANISM: Artificial Sequence
  75 <220> FEATURE:
  76 <223> OTHER INFORMATION: Mutated hPTH
  79 <220> FEATURE:
  80 <221> NAME/KEY: MISC_FEATURE
  81 <222> LOCATION: (6)..(6)
  82 <223> OTHER INFORMATION: Xaa can represent Asp, Glu or Lys
  84 <220> FEATURE:
  85 <221> NAME/KEY: MISC_FEATURE
  86 <222> LOCATION: (9)..(9)
  87 <223> OTHER INFORMATION: Xaa represents homoarginine
  89 <220> FEATURE:
  90 <221> NAME/KEY: MOD_RES
  91 <222> LOCATION: (12)..(12)
  92 <223> OTHER INFORMATION: AMIDATION
  94 <400> SEQUENCE: 2
W--> 96 Ala Val Ala Glu Ile Xaa Leu Met Xaa Ala Lys Trp
  97 1               5                   10
 100 <210> SEQ ID NO: 3
 101 <211> LENGTH: 14
 102 <212> TYPE: PRT
 103 <213> ORGANISM: Artificial Sequence
 105 <220> FEATURE:
 106 <223> OTHER INFORMATION: [(Glu-6, Lys-10)lac.]PTH(1-14)
 109 <220> FEATURE:
 110 <221> NAME/KEY: MISC_FEATURE
 111 <222> LOCATION: (1)..(14)
 112 <223> OTHER INFORMATION: Sequence is cyclized via a 6-10 lactam bridge
 114 <220> FEATURE:
 115 <221> NAME/KEY: MISC_FEATURE
 116 <222> LOCATION: (11)..(11)
 117 <223> OTHER INFORMATION: Xaa represents homoarginine
 119 <220> FEATURE:
 120 <221> NAME/KEY: MOD_RES
 121 <222> LOCATION: (14)..(14)
 122 <223> OTHER INFORMATION: AMIDATION
 124 <400> SEQUENCE: 3
W--> 126 Ala Val Ala Glu Ile Glu Leu Met His Lys Xaa Ala Lys Trp
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127 1               5                       10
130 <210> SEQ ID NO: 4
131 <211> LENGTH: 14
132 <212> TYPE: PRT
133 <213> ORGANISM: Artificial Sequence
135 <220> FEATURE:
136 <223> OTHER INFORMATION: [(Lys-6, Lys-10)lac.]PTH(1-14)
139 <220> FEATURE:
140 <221> NAME/KEY: MISC_FEATURE
141 <222> LOCATION: (1)..(14)
142 <223> OTHER INFORMATION: Sequence is cyclized via 6-10 lactam bridge
144 <220> FEATURE:
145 <221> NAME/KEY: MOD_RES
146 <222> LOCATION: (14)..(14)
147 <223> OTHER INFORMATION: AMIDATION
149 <400> SEQUENCE: 4
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W--> `151 Ala Val Ala Glu Ile Lys Leu Met His Lys Xaa Ala Lys Trp`

```
152 1               5                       10
155 <210> SEQ ID NO: 5
156 <211> LENGTH: 34
157 <212> TYPE: PRT
158 <213> ORGANISM: Rattus sp.
161 <220> FEATURE:
162 <221> NAME/KEY: MOD_RES
163 <222> LOCATION: (34)..(34)
164 <223> OTHER INFORMATION: AMIDATION
166 <400> SEQUENCE: 5
168 Ala Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Ala
169 1               5                       10                  15
172 Ser Val Glu Arg Met Gln Trp Leu Arg Lys Lys Leu Gln Asp Val His
173             20                      25                  30
176 Asn Phe
180 <210> SEQ ID NO: 6
181 <211> LENGTH: 34
182 <212> TYPE: PRT
183 <213> ORGANISM: Homo sapiens
186 <220> FEATURE:
187 <221> NAME/KEY: MOD_RES
188 <222> LOCATION: (34)..(34)
189 <223> OTHER INFORMATION: AMIDATION
191 <400> SEQUENCE: 6
193 Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn
194 1               5                       10                  15
197 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
198             20                      25                  30
201 Asn Phe
205 <210> SEQ ID NO: 7
206 <211> LENGTH: 34
207 <212> TYPE: PRT
```

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                       RAW SEQUENCE LISTING              DATE: 07/28/2005
                       PATENT APPLICATION:  US/10/542,704    TIME: 15:38:36

                       Input Set : A:\sequence listing ascii.txt
                       Output Set: N:\CRF4\07282005\J542704.raw
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     208 <213> ORGANISM: Artificial Sequence
     210 <220> FEATURE:
     211 <223> OTHER INFORMATION: Mutated hPTH
     214 <220> FEATURE:
     215 <221> NAME/KEY: MISC_FEATURE
     216 <222> LOCATION: (6)..(6)
     217 <223> OTHER INFORMATION: Xaa can represent Ala, Glu or Gln
     219 <220> FEATURE:
     220 <221> NAME/KEY: MISC_FEATURE
     221 <222> LOCATION: (10)..(10)
     222 <223> OTHER INFORMATION: Xaa can represent Ala, Glu or Gln
     224 <220> FEATURE:
     225 <221> NAME/KEY: MOD_RES
     226 <222> LOCATION: (34)..(34)
     227 <223> OTHER INFORMATION: AMIDATION
     229 <400> SEQUENCE: 7
W--> 231 Ser Val Ser Glu Ile Xaa Leu Met His Xaa Leu Gly Lys His Leu Asn
     232 1               5                   10                  15
     235 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
     236             20                  25                  30
     239 Asn Tyr
     243 <210> SEQ ID NO: 8
     244 <211> LENGTH: 11
     245 <212> TYPE: PRT
     246 <213> ORGANISM: Artificial Sequence
     248 <220> FEATURE:
     249 <223> OTHER INFORMATION: Mutated hPTH(1-11)
     252 <220> FEATURE:
     253 <221> NAME/KEY: MOD_RES
     254 <222> LOCATION: (11)..(11)
     255 <223> OTHER INFORMATION: AMIDATION
     257 <400> SEQUENCE: 8
     259 Ala Val Ala Glu Ile Gln Leu Met His Gln Arg
     260 1               5                   10
     263 <210> SEQ ID NO: 9
     264 <211> LENGTH: 14
     265 <212> TYPE: PRT
     266 <213> ORGANISM: Artificial Sequence
     268 <220> FEATURE:
     269 <223> OTHER INFORMATION: [Aib-1,3]PTH(1-14)
     272 <220> FEATURE:
     273 <221> NAME/KEY: MISC_FEATURE
     274 <222> LOCATION: (1)..(1)
     275 <223> OTHER INFORMATION: Xaa represents alpha-aminoisobutyric acid
     277 <220> FEATURE:
     278 <221> NAME/KEY: MISC_FEATURE
     279 <222> LOCATION: (3)..(3)
     280 <223> OTHER INFORMATION: Xaa represents alpha-aminoisobutyric acid
     282 <220> FEATURE:
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          RAW SEQUENCE LISTING              DATE: 07/28/2005
          PATENT APPLICATION:  US/10/542,704   TIME: 15:38:36

          Input Set : A:\sequence listing ascii.txt
          Output Set: N:\CRF4\07282005\J542704.raw
```

```
      283 <221> NAME/KEY: MISC_FEATURE
      284 <222> LOCATION: (11)..(11)
      285 <223> OTHER INFORMATION: Xaa represents homoarginine
      287 <220> FEATURE:
      288 <221> NAME/KEY: MOD_RES
      289 <222> LOCATION: (14)..(14)
      290 <223> OTHER INFORMATION: AMIDATION
      292 <400> SEQUENCE: 9
W--> 294 Xaa Val Xaa Glu Ile Gln Leu Met His Gln Xaa Ala Lys Trp
      295 1               5                   10
      298 <210> SEQ ID NO: 10
      299 <211> LENGTH: 34
      300 <212> TYPE: PRT
      301 <213> ORGANISM: Artificial Sequence
      303 <220> FEATURE:
      304 <223> OTHER INFORMATION: ([Tyr-34]hPTH(1-34)amide)
      307 <220> FEATURE:
      308 <221> NAME/KEY: MOD_RES
      309 <222> LOCATION: (34)..(34)
      310 <223> OTHER INFORMATION: AMIDATION
      312 <400> SEQUENCE: 10
      314 Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn
      315 1               5                   10                  15
      318 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
      319             20                  25                  30
      322 Asn Tyr
      326 <210> SEQ ID NO: 11
      327 <211> LENGTH: 14
      328 <212> TYPE: PRT
      329 <213> ORGANISM: Artificial Sequence
      331 <220> FEATURE:
      332 <223> OTHER INFORMATION: [Ala-1,3,12, Gln-10, Har-11, Trp-14]PTH(1-14)amide
      335 <220> FEATURE:
      336 <221> NAME/KEY: MISC_FEATURE
      337 <222> LOCATION: (11)..(11)
      338 <223> OTHER INFORMATION: Xaa represents homoarginine
      340 <220> FEATURE:
      341 <221> NAME/KEY: MOD_RES
      342 <222> LOCATION: (14)..(14)
      343 <223> OTHER INFORMATION: AMIDATION
      345 <400> SEQUENCE: 11
W--> 347 Ala Val Ala Glu Ile Gln Leu Met His Gln Xaa Ala Lys Trp
      348 1               5                   10
      351 <210> SEQ ID NO: 12
      352 <211> LENGTH: 11
      353 <212> TYPE: PRT
      354 <213> ORGANISM: Artificial Sequence
      356 <220> FEATURE:
      357 <223> OTHER INFORMATION: [Ala-1,3, Gln-10, Har-11]PTH(1-11)amide
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 07/28/2005
PATENT APPLICATION: US/10/542,704   TIME: 15:38:37

Input Set : **A:\sequence listing ascii.txt**
Output Set: **N:\CRF4\07282005\J542704.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 1,3,6,10,11,12,14
Seq#:2; Xaa Pos. 6,9
Seq#:3; Xaa Pos. 11
Seq#:4; Xaa Pos. 11
Seq#:7; Xaa Pos. 6,10
Seq#:9; Xaa Pos. 1,3,11
Seq#:11; Xaa Pos. 11
Seq#:12; Xaa Pos. 11
Seq#:14; Xaa Pos. 11
Seq#:15; Xaa Pos. 1,3,11
Seq#:16; Xaa Pos. 11
Seq#:17; Xaa Pos. 1,3,11
Seq#:21; Xaa Pos. 1,3,11
Seq#:22; Xaa Pos. 1,3,11
Seq#:23; Xaa Pos. 1,3,11
Seq#:24; Xaa Pos. 11
Seq#:25; Xaa Pos. 11
Seq#:26; Xaa Pos. 11
Seq#:30; Xaa Pos. 11
Seq#:31; Xaa Pos. 1,3,6,10,11,12,14
Seq#:32; Xaa Pos. 1,3,6,10,11,12,14
Seq#:33; Xaa Pos. 1,3,6,10,11,12
Seq#:34; Xaa Pos. 1,3,6,10,11,12
Seq#:35; Xaa Pos. 1,3,6,10,11

VERIFICATION SUMMARY   DATE: 07/28/2005
PATENT APPLICATION: **US/10/542,704**   TIME: 15:38:37

Input Set : **A:\sequence listing ascii.txt**
Output Set: **N:\CRF4\07282005\J542704.raw**

```
L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:66 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:96 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:126 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:151 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:347 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:372 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:434 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:473 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:502 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:541 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0
L:675 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
L:710 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:735 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0
L:760 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0
L:790 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0
L:900 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:959 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:1022 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:1076 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
L:1126 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:1171 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
```